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To: David Clugston, USACE Portland District
From: Michael A. Jepson, Steve Lee, Mark Morasch, Ken Tolotti, Chris Peery
RE: Summary #1 of Radiotelemetry data for Chinook salmon at Bonneville Dam
Date: 1 May 2006

This summary is based on radio data downloaded from receivers at Bonneville Dam up to 27 April 2006 and mobile tracking records from 19-23 April 2006. A total of 65 adult Chinook salmon were radiotagged and released prior to the 27 April 2006 downloads. Among these 65 salmon, 22 have been recorded in or near Bonneville Dam and five have passed the dam (one has passed John Day Dam, see below), three fish have only mobile track records downstream the dam and the remaining fish have no records at the project yet. One fish passed Bonneville Dam using the Bradford Island fishway, on 26 April, then fell back at the project and was on its second ascent of the project at the time receivers were downloaded.

Times for fish to reach the tailrace from release points 8 km downstream were 47.1 hrs before two SLEDs were removed, 24 April, 35.8 hr while the SLEDs were out, and 32.3 hr after SLEDs replaced 26 April (Table 1). Most fish that returned to the tailrace went on to approach the dam. Times to make a first approach and first entrance were measurably faster after 24 April.

Table 1. Median times for radio-tagged adult Chinook salmon from release to first tailrace record (n/numbers of fish tagged during time interval), from tailrace until first approach at a fishway entrance (n), from first approach to first entry (individual times for two fish in each group, and total to pass the dam. Condition was at time

<u>Condition</u>	<u>Dates</u>	<u>Median times</u>			
		<u>Release to</u> <u>tailrace (hr)</u>	<u>Tailrace to</u> <u>first App</u>	<u>1st App</u> <u>1st Ent</u>	<u>Total to</u> <u>pass dam</u>
Before SLED out	15-24 April	47.1 (8/25)	14.9 (6)	70, 30 (2)	55 (4)
SLED out	24-26 April	35.8 (7/29)	9.7 (4)	0.4, 10.1 (2)	17.8 (1)
After SLED out	26-27 April	32.3 (4/11)	12.8 (3)	0.4, 1.0 (2)	none

Ratios of all approaches to entries have improved over time from 5.6 before 24 April, to about 3 after that date I (Table 2). There was one fish that entered an entrance with SLEDs removed of the six that approached during the 48 hr trial.

Table 2. Total approaches and entries to Bonneville Dam fishway entrances preior to, during, and after two SLEDs were removed from powerhouse 2, a approaches and entries made at powerhouse 2 during same time intervals.

<u>Condition</u>	<u>Dates</u>	<u>All</u>			<u>PH2</u>		
		<u>Appr</u>	<u>Entries</u>	<u>App/Entry</u>	<u>Appr</u>	<u>Entries</u>	<u>Comment</u>
Before SLED out	15-24 April	23	4	5.6	2	2	both at south entrances
SLED out	24-26 April	13	3	4.3	8	1	at downstream north
After SLED out	26-27 April	5	3	1.7	1	1	no record, FOG entry?

To date (1 May 2006) an additional 30 salmon have been tagged and released downstream from the dam. Although sample sizes are small, the data indicaste that passage conditions are have improved at Bonneville Dam over the last week and these changes were likely independent of removing two SLEDs from powerhouse 2. Numbers of fish counted at the dam have continued to increase, and have now reached 7% of the 10-year average compared to 2% one week ago. These numbers are encouraging but still extremely low for this time of the year.

One radio-tagged salmon has reached John Day Dam. This fish (16-84) was tagged at Bonneville 14 April, reached John Day 23 April. This fish was first detected in the south-shore ladder with no ecords in the tailrace or at a fishway entrance. It exited the fishway and passed the dam using the north-shore fishway. Total time interval of record at the project was about 6 hrs. It is possible that this fish was moving deep in the water column, a